Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of determining interference between channels in a Digital Subscriber Line (DSL) transmission system employing Discrete Multitone (DMT) modulation comprising:
determining a power mask level per channel P(k);
obtaining a channel impulse [[~~value h(n)~~]] response (h(n)) after implementation of a time equalization (TEQ) algorithm;
zeroing M main coefficient values of the channel impulse response to produce a residual impulse response (h'(n));
obtaining from the residual impulse response (h'(n)) a corresponding residual impulse spectrum (H'(k));
and multiplying the per channel power mask level and [[a]] the residual impulse spectrum (H'(k)) to obtain a cross channel interference (I(k)) level.

2. (Currently amended) The method according to claim 1 wherein a Fast Fourier Transform (FFT) is employed to obtain said residual impulse spectrum (H'(k)).

3. (Currently amended) A method of estimating cross channel interference I(k) in a Discrete Multitone (DMT) communication system implemented in a Digital Subscriber Line (DSL) application, said DMT communication system employing inter-symbol cyclic prefix (M) and Time Equalization (TEQ), the method comprising:
a) measuring a total channel impulse response h(n) after TEQ;
b) zeroing M main coefficients from h(n);
c) performing Fast Fourier Transform (FFT) analysis on the result of step b); and
d) obtaining I(k) by multiplying the result of step c) with a maximum power per channel value.

4. (Original) A method of allocating bits per channel in a DMT communication system implemented in a DSL application, said system employing inter-symbol cyclic prefix and Time Equalization, said method comprising;
performing a first bit allocation algorithm to obtain a first bit per channel value and a first power per

channel level;
obtaining a cross channel interference value based on a measured impulse response;
obtaining a noise value by adding the cross channel interference value to an interference noise value;
obtaining a second power mask per channel based on a pre-calculated power per channel level; and
implementing a second bit allocation algorithm utilizing said noise value, a signal to noise ratio and said second power mask per channel level to obtain a final bit per channel allocation.

5. (Currently amended) The method according to claim [[~~5~~]] 4, wherein a second power mask per channel level is derived by said second bit allocation algorithm.

6. (Currently amended) A ~~system for determining interference between channels in a~~ Digital Subscriber Line (DSL) transmission system employing Discrete Multitone (DMT) modulation, having means for determining interference between channels, comprising:
means to determine a power mask level per channel P(k);
means to obtain a channel impulse value h(n) after implementation of a time equalization (TEQ) algorithm;
means for zeroing M main coefficient values of the channel impulse response to produce a residual impulse response (h'(n));
means for obtaining from the residual impulse response (h'(n)) a corresponding residual impulse spectrum (H'(k)) ; and
a multiplier to multiply the per channel power mask level and a residual impulse spectrum (H'(k)) to obtain a cross channel interference (I(k)) level.

7. (Currently amended) A ~~system for estimating cross-channel interference I(k) in a~~ Discrete Multitone (DMT) communication system implemented in a Digital Subscriber Line (DSL) application, said DMT system employing inter-symbol cyclic prefix (M) and Time Equalization (TEQ), and having ~~the system~~ cross-channel interference (I(k)) estimating means comprising:
a) measurement means to measure a total channel impulse response h(n) after TEQ;
b) means to zero M main coefficients from h(n);
c) means to perform Fast Fourier Transform (FFT) analysis on the result of step b); and
d) means to obtain I(k) by multiplying the result of step c) with a maximum power per channel value.

8. (Currently amended) A ~~system for allocating bits per channel in a~~ DMT communication ~~scheme~~ system implemented in a DSL application employing inter-symbol cyclic prefix and Time Equalization, said system having means for allocating bits per channel comprising;
means for performing a first bit allocation algorithm to obtain a first bit per channel value and a first

power per channel level;
means for obtaining a cross channel interference value based on a measured impulse response;
means for obtaining a noise value by adding the cross channel interference value to an interference noise value;
means for obtaining a second power mask per channel based on a pre-calculated power per channel level; and
means for implementing a second bit allocation algorithm utilizing said noise value, a signal to noise ratio and said second power mask per channel level to obtain a final bit per channel allocation.

9. (New) A receiver for use in a Digital Subscriber Line (DSL) transmission system employing Discrete Multitone (DMT) modulation, the receiver having interference determining means comprising:
means to determine a power mask level per channel P(k);
means to obtain a channel impulse value h(n) after implementation of a time equalization (TEQ) algorithm;
means for zeroing M main coefficient values of the channel impulse response to produce a residual impulse response (h'(n));
means for obtaining from the residual impulse response (h'(n)) a corresponding residual impulse spectrum (H'(k)); and
a multiplier to multiply the per channel power mask level and a residual impulse spectrum (H'(k)) to obtain a cross channel interference (I(k)) level.

10. (New) A receiver for use in a Discrete Multitone (DMT) communication system implemented in a Digital Subscriber Line (DSL) application, said DMT system employing inter-symbol cyclic prefix (M) and Time Equalization (TEQ), the receiver having cross-channel interference (I(k)) estimating means comprising:
a) measurement means to measure a total channel impulse response h(n) after TEQ;
b) means to zero M main coefficients from h(n);
c) means to perform Fast Fourier Transform (FFT) analysis on the result of step b); and
d) means to obtain cross-channel interference (I(k)) by multiplying the result of step c) with a maximum power per channel value.

11. (New) A receiver for use in a DMT communication scheme implemented in a DSL application employing inter-symbol cyclic prefix and Time Equalization, said receiver having means for allocating bits per channel comprising;
means for performing a first bit allocation algorithm to obtain a first bit per channel value and a first

power per channel level;

means for obtaining a cross channel interference value based on a measured impulse response;

means for obtaining a noise value by adding the cross channel interference value to an interference noise value;

means for obtaining a second power mask per channel based on a pre-calculated power per channel level; and

means for implementing a second bit allocation algorithm utilizing said noise value, a signal to noise ratio and said second power mask per channel level to obtain a final bit per channel allocation.